

Claims

- [c1] 1. A motor comprising:
- a column-shaped shaft extending in a vertical direction;
 - a sleeve impregnated with oil, which is cylindrical and rotatably supports the shaft therein, a sleeve-type bearing being formed between the shaft and the sleeve;
 - a rotor provided with a disc-shaped portion expanding from an upper end portion of the shaft about the shaft, a cylindrical portion hanging downwardly from an outer peripheral edge of the disc-shaped portion, and at least two peripheral wall portions, an inner wall portion and an outer wall portion, which are hanging downwardly from the lower face of the disc-shaped portion toward the upper end of the sleeve about the shaft so as to surround the shaft, and are spaced from each other in a radial direction of the shaft;
 - a housing having a cylindrical sleeve holding portion holding the sleeve inside thereof;
 - a stator fixed outside of the sleeve holding portion;
 - a cylindrical magnet which is fixed on the inner peripheral face of the cylindrical portion so as to be opposed to the stator for generating a rotational driving force in the rotor together with the stator; and

an annular recessed portion located in an outer peripheral location of the outer wall portion so as to surround an open space over the sleeve, the open space in which the inner and the outer wall portion are accommodated, for preventing oil from leaking out, the annular recessed portion having a lower top of the most inner part, wherein

the lower end of the inner wall portion is located lower than the lower end of the outer wall portion, and the lower end of the outer wall portion is located lower than the lower top of the annular recessed portion.

[c2] 2. A motor according to claim 1, wherein the annular recessed portion which has an inverse U-shape in cross section, and comprises a toric portion, an inner hanging portion hanging down from an inner annular edge of the toric portion toward the sleeve, and an outer supporting portion extending downward from an outer annular edge of the toric portion and fixed to the stator or the housing.

[c3] 3. A motor according to claim 2, wherein at least one of the peripheral wall portions has a shape that a thickness thereof in the radial direction gradually becomes smaller downwardly and becomes minimum at a lower end portion.

- [c4] 4. A motor according to claim 3, wherein at least one of the peripheral wall portions has an outer peripheral face which is parallel to a rotational axis of the motor, or a distance from an observing point on the outer peripheral face to the rotational axis is gradually getting longer depending on the observing point going downwardly.
- [c5] 5. A motor according to claim 3, wherein at least one of the peripheral wall portions has an outer peripheral face which a angle defined between the outer peripheral face and a face perpendicular to a rotational axis of the motor is 90 or less degree.
- [c6] 6. A motor according to claim 4, wherein the rotor is integrally moulded of synthetic resin.
- [c7] 7. A motor according to claim 6, further comprising a plurality of blades fixed to an outer peripheral face of the cylindrical portion.
- [c8] 8. A motor according to claim 7, further comprising a back iron including an outer cylindrical portion sandwiched between the magnet and the cylindrical portion of the rotor and a cover portion expanding toward an inner diametrical side with a predetermined clearance from an upper end face of the magnet, and formed of mag-

netic material, wherein the disc-shaped portion of the rotor has a hanging portion which surrounds the shaft with a clearance from the shaft in the radial direction about the shaft so as to face in an annular space defined by the upper end face of the magnet, the lower face of the cover portion of the back iron and the inner peripheral face of the outer cylindrical portion.

- [c9] 9. A motor according to claim 3, wherein in the rotor, the peripheral wall portions and the disc-shaped portion are made of different material each other.